

Anesthetic Management for Cesarean Delivery in a Pregnant Female with Polymyositis

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Abstract: *Polymyositis is an autoimmune disease causing chronic inflammation in skeletal muscles. Usually this muscle weakness is painless and involves proximal skeletal muscles. If the disease is not treated properly, it may affect the quality of life. Pregnancy itself is a high risk condition. Autoimmune diseases like polymyositis flares in pregnancy. Conventional treatment may include drugs that suppress inflammation like steroids. Many anesthesia drugs can be detrimental in such condition. Therefore, regional anesthesia can be safely administered. In this article, we present a 27 - year - old female with 37 weeks of gestation in labour, a diagnosed case of polymyositis. Subarachnoid block was given for her cesarean section. Patient showed no deterioration in her muscle functions from preoperative period.*

Keywords: Polymyositis, Pregnancy, Subarachnoid block

1. Introduction

Polymyositis is a systemic connective tissue disorder that causes muscle inflammation and degeneration. Abnormal immune responses may be responsible for slowly progressive muscle damage. It can cause weakness of proximal skeletal muscle groups like flexor neck, shoulder and hip muscles. Polymyositis may flare during pregnancy. Anaesthetic management of such parturients become challenging especially during emergency situation.

2. Case Report

A 27 - year - old, G2P2L1 female at 37 weeks gestation was referred to OBGY department as her labor pain had started. She was diagnosed with polymyositis of lower limb from third month of gestation, and was started on Tab. Prednisolone 10mg due to muscle weakness in pregnancy.

Patient had c/o b/l proximal muscle weakness since 3rd month of Antenatal period which got progressed in next 2 months so that she was unable to walk and was bed ridden since her 5th month of Antenatal period.

Patient had no such complaints in her previous pregnancy.

No family history of polymyositis or any muscular disorder was present. Preoperative physical examination was normal. She had no history of respiratory and cardiac problem. Biochemistry results including liver enzymes (AST, aspartate aminotransferase: 252 U/L, normal limits: ≤ 35 U/L; ALT, alanine aminotransferase: 201 U/L, normal limits: ≤ 40 U/L; LDH, lactate dehydrogenase: 1478 U/L, normal limits: 240 - 480 U/L) and CK levels (creatin kinase: 1886 U/L, normal limits: ≤ 145 U/L) were high. Neurologic examination on admission showed that muscle strength was 5 (on a 0 - 5 Medical Research Council scale) for the upper limb proximal muscles, 2 for the lower limb proximal muscles, 4 for the hip flexion and 4 for the neck flexion. She was found to have a cervical dilatation of 3 cm after the examination and thus the neurologist together with the obstetrician decided on urgent cesarean section owing to her muscles weakness which might lead to difficulties in vaginal delivery.

Intra Operative Period

After written high risk informed consent approval and adequate NBM confirmation patient was premedicated with InjOndansetron 4mg. Co - loading with Lactated Ringer's solution started. Subarachnoid block was given at L2 - L3 space. A sensory block level of T4 - T5 was maintained.

After subarachnoid block the patient was placed supine on the operating table, with left uterine displacement. Lateral uterine displacement until surgical incision was achieved by tilting the operating table to 15°left. Sensory block height was evaluated by bilateral pinprick test at the every two minutes. The operation started when sensorial block level reached T4 - 5 at 6 minutes after anesthesia induction. The time from surgical incision to delivery was 8 minutes, and the patient delivered an full term baby. After delivery, we administered 10 U oxytocin in 500 mL crystalloid solution by slow intravenous infusion. The patient was hemodynamically stable and showed no signs of hypotension or bradycardia throughout the operation. In the postoperative period, the neurologist again evaluated the patient using MRC (Medical Research Council scale) after the subarachnoid block regressed over a period of 110 minutes.

Post Operative Period

Her muscle function showed no deterioration from the preoperative period. Two weeks later, improvement in muscle functions was recorded in the patient's controls.

3. Discussions

Polymyositis is uncommon in pregnancy. The chances of development or exacerbation may be attributable to changes in maternal hormones. If exacerbation occurs both the mother and the baby are considered under high - risk during pregnancy.

Parturients with polymyositis are sensitive to nondepolarising muscle relaxants, and the use of their antagonist drugs may lead to muscle weakness and severe dysrhythmias. Steroids which are used in treatment of polymyositis may cause myopathy which in turn can increase sensitivity to neuromuscular blocking drugs. Volatile anesthetic agents may trigger malignant

hyperthermia but also potentiate the effects of muscle relaxant.

4. Conclusion

Therefore, general anesthesia should be avoided in patients with polymyositis due to the risk of delayed recovery from muscle relaxation, arrhythmias, aspiration pneumonitis and cardiac failure. Spinal anesthesia can be safely administered for C - section in parturients with polymyositis.

References

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